Human Factors

research and technology division

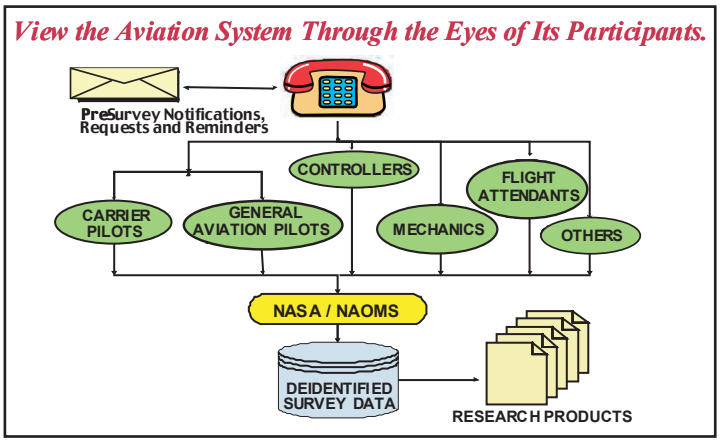
National Aviation Operational Monitoring Service (NAOMS)

Objective

NAOMS is an element of the ASMM Project whose purpose is to:

1. Create a mechanism to routinely measure the safety of the National Aviation System (NAS) in a quantitatively precise way.

2. Demonstrate the use of this mechanism to assess trends in NAS safety and to identify the factors driving those trends.



3. Identify safety and efficiency effects of new flight and Air Traffic Management (ATM)

Approach

Provide a comprehensive, statistically-based system-wide survey mechanism for monitoring the performance and safety of the overall NAS and for detecting and evaluating the effects of new technologies or procedures as they are inserted into the system. A new constituency (commercial flight crews, GA pilots, ATC controllers, technicians, flight attendants, etc.) is added to the survey each year as it ramps up to representations from all of the stakeholders.

Impact

NAOMS provides an ability to support the aviation community in its assessment of operational safety risks and of the efficacy of government/industry interventions. The NAOMS Team has, therefore, cultivated close associations with representatives of all of the stakeholders in the aviation community.

Information Technology

NAOMS has devoted a great deal of energy to developing a methodologically sound survey process. Trade offs have been considered among precision, accuracy, and cost. The main variable that can be manipulated to accomplish these tradeoffs is sample size. A very successful Field Trial of NAOMS in FY99-00 helped to quantify those trades. It also helped to establish several other features of the methodology to ensure stability and interpretability of the statistical trends. Advanced statistical methods are utilized to process the data and extract the information automatically.

POC: Mary Connors, Ph.D.

URL: http://humanfactors.arc.nasa.gov/ihs/